

The Examiner rejected claims 1 to 4, 7 to 8, and 10 under 35 U.S.C. § 102(b) as being anticipated by any one of the Dotzer '383, Stoger '034, Birkle '831, or Crites '642 patents. Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over any of the same references. These rejections are respectfully traversed in light of the present amendment.

The present amendment places independent claim 2 in a form that mirrors the claim 1 from the parent case, which has been issued as U.S. Patent No. 6,241,869. Further, for an additional understanding of the context of the amended claims, the Examiner is respectfully directed to Fig. 6 of the present application and the supporting passages in the specification. None of the cited prior art references teaches or suggests an apparatus where a pre-treating chamber, a transportation chamber, and an electroplating chamber are combined to be maintained together in a non-oxidative atmosphere. The references teach electroplating chambers that include inert gas inlets, and in some cases outlets. However, none of the references include a pre-treating chamber that is in communication with an electroplating chamber via a transportation chamber so that each chamber is maintained in a non-oxidative state. Further, none of the references teaches or suggests the feature where each of the chambers include inert gas inlets and outlets as claimed in newly added claim 11.

"A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. Likewise, "to establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In *re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). Because the features discussed above in the claims are neither taught nor suggested by the cited prior art, it is respectfully requested that the rejections of claims be withdrawn.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully

requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

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Respectfully submitted,

By

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Version With Markings to Show Changes Made

2. (amended) An apparatus for electroplating [as claimed in claim 1] and thereby forming a metal film by way of an electroplating method, said apparatus comprising:

a plating bath provided in a plating chamber;

wherein said non-oxidative atmosphere, in which said plating bath is provided, is provided in a plating chamber, and

said apparatus further comprises]

a pre-treating chamber, in which a pre-treatment of an article to be plated is conducted, and

a transportation chamber connected to said pre-treating chamber and said plating chamber,

wherein said pre-treating chamber, said transportation chamber, and said electroplating chamber are combined to be maintained together in a non-oxidative atmosphere.

4. (amended) An apparatus for electroplating as claimed in claim 2, wherein said non-oxidative atmosphere is selected from the group consisting of a rare gas atmosphere, a nitrogen gas atmosphere and a hydrogen gas atmosphere.

8. (amended) An apparatus for electroplating as claimed in claim [1] 2, wherein said plating chamber includes a gas supply port for supplying said non-oxidative gas to said plating chamber and a gas evacuation port for evacuating gas contained in the plating chamber.

9. (amended) An apparatus for electroplating as claimed in claim [1] 2, wherein said metal is a copper film, said [plating bath is provided in a] plating chamber [having] includes means for embedding said copper film in a groove or a connecting hole of an article to be plated in said plating bath, whereby voids formed in said copper film include an inert gas forming said non-oxidative layer, and [whereby] such that said copper film may be heat treated without oxidation of said film.

11. (new) An apparatus for electroplating as claimed in claim 2, wherein each of said pre-treating chamber, said transportation chamber, and said electroplating chamber individually includes with an inert gas supply and a gas exhaust.